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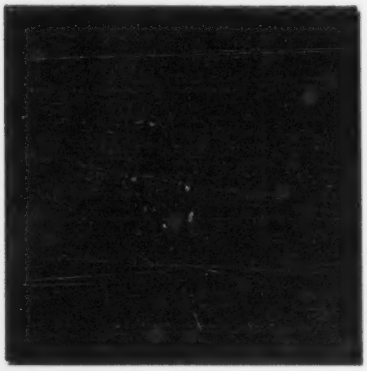
Revisions to Canada and United States Annual Estimates of Labour Productivity in the Business Sector



2006 to 2009

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Revisions to Canada and United States Annual Estimates of Labour Productivity in the Business Sector, 2006 to 2009

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Note of appreciation

Canada owes the success of its statistical system to a long-standing partnership between Statistics Canada, the citizens of Canada, its businesses, governments and other institutions. Accurate and timely statistical information could not be produced without their continued cooperation and goodwill.

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Symbols

The following standard symbols are used in Statistics Canada publications:

.	not available for any reference period
..	not available for a specific reference period
...	not applicable
0	true zero or a value rounded to zero
0^s	value rounded to 0 (zero) where there is a meaningful distinction between true zero and the value that was rounded
^{p}	preliminary
^{r}	revised
x	suppressed to meet the confidentiality requirements of the *Statistics Act*
^{E}	use with caution
F	too unreliable to be published

Abstract

This paper examines the impact of the revisions to labour productivity estimates and related variables covering the revision cycle of the National Accounts from 2006 to 2009 for Canada and from 2007 to 2009 for the United States.

1 Introduction

In this paper, we compare recent revisions to the labour productivity estimates in Canada and the United States. These regular revisions to preliminary estimates extend back four years (2006 to 2009).

Revisions to Canadian labour productivity estimates were made in June 2010 and incorporate the latest available estimates of gross domestic product[1] (GDP) and the annual benchmarks on hours worked. These revisions relate to the last four years (2006 to 2009). Preliminary productivity data are produced on the basis of preliminary GDP and hours worked estimates, which are eventually revised when additional and more precise data sources become available.

In August 2010, revisions were also made to labour productivity estimates[2] in the United States for the period 2007 to 2009, resulting from revisions to the United States estimate of GDP and hours worked.

2 Revision process

The estimates of labour productivity (output per hour worked) that are produced by the Canadian Productivity Accounts are subject to two types of revisions.

The first type of revision is a series of annual revisions in the GDP that goes back over a four-year period (Statistics Canada, 2010). For example, with this revision cycle, the preliminary estimate of GDP first released in February of 2006 was revised annually over the four subsequent annual revisions cycles, as more detailed and accurate data become available to the Canadian System of National Accounts (CSNA).

Preliminary estimates of GDP by industry are derived from benchmark estimates using a small number of readily measured series (for example, the GDP in Taxi and Limousine Services industry is projected from the Survey of Employment, Payrolls and Hours [SEPH] estimate of employment growth). The industry estimates are gradually supplemented with more detailed and accurate data that are obtained from surveys such as the Annual Survey of Manufactures and from administrative tax records that become available after a lag of one or two years. Similarly, preliminary estimates of expenditure-based GDP are also calculated from data sources that are eventually replaced by more comprehensive information.

In addition, the labour productivity estimates for year t are revised in year t+1 as new information on hours worked becomes available (improving the first estimates of employment and hours worked that are made using the Labour Force Survey [LFS] and SEPH). These revisions improve the estimates of hours worked because more precise measures of holidays and other non-random events are used (Maynard 2005). Revisions also occur if the employment estimates for the non-commercial sector are revised. This is because the business sector estimate is obtained residually after removing the non-commercial sector from the total economy.

1. These estimates are derived from the expenditure side of the National Accounts valued at market prices.
2. The Indexes of labour productivity and the related variables in the U.S. have been converted from reference year 1992 to reference year 2005. Adoption of the new 2005 reference year does not alter productivity growth rates since it represents a scaling of indices based on 1992.

The second type of revision, referred to as historical or comprehensive revisions, occur less frequently, about once or twice every 10 years[3]. Historical revisions of the CSNA are occasionally carried out to eliminate breaks in some series, to modify classification standards (for example, the movement from the Standard Industrial Classification to the North American Industry Classification System) or to introduce conceptual and methodological changes.

Historical revisions also occur in the employment and hours worked data when the LFS is occasionally re-benchmarked against data from the most recent Census of Population. The CSNA is currently planning a historical or comprehensive revision with the results to be published in June 2012. The results presented below pertain to the first type of revisions noted above.

3 Impact of revisions on labour productivity

In this section, we compare recent revisions to the labour productivity estimates for the business sector in Canada and the United States.

Revisions to Canadian labour productivity estimates were made in June 2010 in order to incorporate the latest available estimates of GDP estimates[4]. These revisions relate to the last four years (2006 to 2009). The revisions to estimates of labour productivity, GDP and volume of hours worked, which extend back to 2001, are presented in Tables 1 to 3. These tables show the evolution of the estimates over the last six revision rounds since 2001. The revision cycles of the most recent estimates (2007-2009) are not yet completed for the Canadian estimates. Similarly, the 2008 and 2009 estimate of United States GDP will go through at least one more revision cycle. The estimates produced during the first four-year revision cycle appear with the footnote marker "1". Other revisions reflect revisions of the "second" type outlined above.

Table 4 shows the long-term impact of revisions on the labour productivity performance of both Canada and the United States for different sub-periods included in the 1981-to-2009 period. The period from 2000 to 2009 cover the years since the end of the previous peak in productivity growth, which was observed in 2000. The period from 2006 to 2009 correspond to a period when only preliminary estimates of GDP are available. The period from 1981 to 2000 however, contain estimates that are past the preliminary revision cycle. It essentially covers two business cycles and therefore provides a better comparison of differences in long-term trends between Canada and the United States[5]. Productivity estimates of short-term changes are generally more volatile than estimates of changes over the long term.

3.1 Impact of Canadian revisions

Overall, the revisions of the Canadian productivity figures for the period from 2006 to 2009 resulted in almost no change from previous estimates. For the business sector on the whole, the revisions reduced the annual rate of growth in Canada's labour productivity for 2006 and 2007, and increased it for 2008 and 2009. The magnitude of the revisions ranged from a 0.3% upward revision in 2009, to a 0.4% downward revision in 2007.

3. For example, for the United States, the revisions in August 2009 are of the 'second' type. As it does every five years, the United States made historical revisions to its labour productivity estimates in the month of August 2009.
4. Recent productivity data are produced on the basis of preliminary GDP estimates, which are eventually revised when additional and more precise information becomes available to the National Accounts.
5. Quarterly measures of productivity in the Canadian business sector are available from 1981 onward.

In general, the revisions tended to cancel each other out. Consequently, the revisions had no impact on the average annual productivity growth for the period from 2006 to 2009, which remains negative (-0.2%).

3.2 Impact of American revisions

On the other hand, the annual growth rate of labour productivity in American businesses was revised downward for each of the last four years, from 2006 to 2009. Over this period, the revised estimates show that average annual productivity increased 2.1%, 0.5 percentage points less than the previously published estimates indicated.

Thus, the average annual rate of productivity in the United States reached 0.9% in 2006 (revised from 1.0%), 1.5% in 2007 (revised from 1.8%), 1.1% in 2008 (revised from 2.1%) and 3.5% in 2009 (revised from 3.8%). Annual productivity growth in the United States slowed gradually between 2002 and 2006, before rebounding slightly in 2007 and 2008 and increasing significantly in 2009.

Since 2002, the United States has systematically revised downwards its preliminary estimates of labour productivity. On average, revisions have reduced productivity growth by -0.8 percentage point on an annual basis.

3.3 Analysis of the gap in labour productivity between Canada and the United States

The average annual productivity growth in American businesses for the period of 2004 to 2007 was 1.4% (compared to 1.5% before revisions), a growth rate comparable to that of Canadian businesses (+1.2%) as shown in table 4.

While the revisions for 2008 and 2009 tended to narrow the gap between the growth in Canadian labour productivity and US labour productivity it is still much wider than for the period 2004 to 2007. The annual US-Canada gap in productivity growth for 2008 narrowed from 3.2 percentage points to 2.0 percentage points for 2008 and from 3.7 points to 3.1 percentage points for 2009. These gaps are mainly due to different trends in hours worked in the two countries.

There was also a substantial difference in average annual productivity growth between Canada and the United States from 2000 to 2004, with productivity in the United States growing five times faster than in Canada.

Between 2000 and 2004, the average annual growth in U.S. productivity was 3.5%. In contrast, it increased by 0.7% a year in Canada.

Over the 2000-to-2009 period, the average annual growth rate was 0.7% in Canada and 2.5% in the United States: Canadian productivity increased at less than one-third of the pace in the United States. Over this period, growth in real GDP was comparable in both countries while hours worked increased at a faster pace in Canada. More precisely, GDP growth in Canada was, on average, 1.4% per year from 2000 to 2009, while the hours worked increased by 0.7%. In comparison, the U.S. GDP grew, on average, by 1.5%, while, during the same period, hours worked decreased by 1.0 %.

Over a longer period (1981 to 2000), there is a small gap in productivity growth between Canada and the United States (0.4 percentage point per year), some of which may arise from slightly different methods used to calculate the growth in labour inputs (Maynard 2007). For this period, productivity has grown at an average annual rate of 1.6% in Canada, compared with 2.0% in the United States.

4 Conclusion

The 2006-to-2009 revisions of GDP in Canada (and the 2007-to-2009 revisions of GDP in the United States) served to reduce the gap in Canada-US labour productivity in the recent years. The gap for the period 2006-2009 was revised from 2.8 percentage points to 2.3 percentage points. When included in the average for the period 2000 to 2009 the average productivity gap was revised from 2.0 percentage points to 1.8 percentage points.

Since the most recent revisions applied only to the period after 2000, they have had no effect on Canada–United States differences over the period 1981 to 2000. During this period, Statistics Canada's estimates of productivity growth have consistently shown an average annual gap of 0.4 percentage points between Canada and the United States. For a more extensive discussion of the significance of the difference and the causes behind it, see Statistics Canada (2007) and Baldwin, and Gu (2009).

5 Statistical tables

Table 1
Labour productivity, business sector, annual change, Canada and United States

	2001	2002	2003	2004	2005	2006	2007	2008	2009
					percent				
Canada									
First estimates published for 2001 (4th quarter), The Daily release of March 14, 2002	1.2 [1]	...	...	...	...	...	...	...	...
After the revisions round in 2001 (1st quarter), The Daily release of June 14, 2002	0.8 [1]	...	...	...	...	...	...	...	...
First estimates published for 2002 (4th quarter), The Daily release of March 14, 2003	0.8 [1]	2.2 [1]	...	...	...	...	...	...	...
After the revisions round in 2002 (1st quarter), The Daily release of June 12, 2003	1.2 [1]	1.8 [1]	...	...	...	...	...	...	...
First estimates published for 2003 (4th quarter), The Daily release of March 12, 2004	1.0 [1]	1.9 [1]	0.1 [1]	...	...	...	...	...	...
After the revisions round in 2003 (1st quarter), The Daily release of June 11, 2004	1.4 [1]	2.3 [1]	0.4 [1]	...	...	...	...	...	...
First estimates published for 2004 (4th quarter), The Daily release of March 10, 2005	1.7 [1]	2.5 [1]	0.2 [1]	0.0 [1]	...	...	...	...	...
After the revisions round in 2004 (1st quarter), The Daily release of June 9, 2005	1.5 [1]	2.1 [1]	0.2 [1]	0.0 [1]	...	...	...	...	...
First estimates published for 2005 (4th quarter), The Daily release of April 26, 2006	1.1	1.4 [1]	0.4 [1]	0.0 [1]	2.2 [1]	...	...	...	...
After the revisions round in 2005 (1st quarter), The Daily release of June 8, 2006	1.1	1.4 [1]	0.0	0.3 [1]	2.3 [1]	...	...	...	...
First estimates published for 2006 (4th quarter), The Daily release of March 12, 2007	1.1	1.4	0.0 [1]	0.3 [1]	2.1 [1]	1.2 [1]	...	...	...
After the revisions round in 2006 (1st quarter), The Daily release of June 12, 2007	1.1	1.3	0.2 [1]	0.0 [1]	2.5 [1]	1.0 [1]	...	...	...
First estimates published for 2007 (4th quarter), The Daily release of March 14, 2008	1.1	1.3	0.2	0.0 [1]	2.5 [1]	1.1 [1]	0.5 [1]	...	...
After the revisions round in 2007 (3rd quarter), The Daily release of December 10, 2008	1.1	1.3	0.2	0.2 [1]	2.2 [1]	1.4 [1]	0.7 [1]	...	...
First estimates published for 2008 (4th quarter), The Daily release of March 17, 2009	1.1	1.4	0.2	0.2	2.2 [1]	1.4 [1]	0.7 [1]	-1.1 [1]	...
After the revisions round in 2008 (1st quarter), The Daily release of June 16, 2009	1.1	1.4	0.2	0.2	2.4 [1]	1.2 [1]	0.4 [1]	-1.1 [1]	...
First estimates published for 2009 (4th quarter), The Daily release of March 16, 2010	1.1	1.4	0.2	0.2	2.4	1.2 [1]	0.4 [1]	-1.1 [1]	0.1 [1]
After the revisions round in 2009 (1st quarter), The Daily release of June 15, 2010	1.1	1.4	0.2	0.2	2.4	1.1 [1]	0.0 [1]	-0.9 [1]	0.4 [1]
Difference, original and actual estimates[2]	-0.1	-0.8	0.1	0.2	0.2	-0.1	-0.5	0.2	0.3

See footnotes and sources at the end of the table.

Table 1 – concluded
Labour productivity, business sector, annual change, Canada and United States

	2001	2002	2003	2004	2005	2006	2007	2008	2009
					percent				
United States									
First estimates published for 2001 (4th quarter), Bureau of Labor Statistics release of May 31, 2002	2.0 [1]	...	...	...	...	...	...	...	...
After the revisions round in 2001 (2nd quarter), Bureau of Labor Statistics release of August 9, 2002	1.1 [1]	...	...	...	...	...	...	...	...
First estimates published for 2002 (4th quarter), Bureau of Labor Statistics release of June 4, 2003	1.1 [1]	4.8 [1]	...	...	...	...	...	...	...
After the revisions round in 2002 (2nd quarter), Bureau of Labor Statistics release of August 7, 2003	2.0 [1]	5.3 [1]	...	...	...	...	...	...	...
First estimates published for 2003 (4th quarter), Bureau of Labor Statistics release of March 4, 2004	2.2 [1]	4.9 [1]	4.5 [1]	...	...	...	...	...	...
After the revisions round in 2003 (2nd quarter), Bureau of Labor Statistics release of August 10, 2004	2.5 [1]	4.3 [1]	4.5 [1]	...	...	...	...	...	...
First estimates published for 2004 (4th quarter), Bureau of Labor Statistics release of March 3, 2005	2.5 [1]	4.3 [1]	4.5 [1]	4.0 [1]	...	...	...	...	...
After the revisions round in 2004 (2nd quarter), Bureau of Labor Statistics release of August 9, 2005	2.5 [1]	4.0 [1]	3.9 [1]	3.4 [1]	...	...	...	...	...
First estimates published for 2005 (4th quarter), Bureau of Labor Statistics release of March 7, 2006	2.5	4.0	4.1 [1]	3.5 [1]	2.7 [1]	...	...	...	...
After the revisions round in 2005 (2nd quarter), Bureau of Labor Statistics release of August 8, 2006	2.6	4.1	3.8 [1]	3.1 [1]	2.3 [1]	...	...	...	...
First estimates published for 2006 (4th quarter), Bureau of Labor Statistics release of March 6, 2007	2.6	4.1	3.8	3.1 [1]	2.1 [1]	1.7 [1]	...	...	...
After the revisions round in 2006 (2nd quarter), Bureau of Labor Statistics release of August 7, 2007	2.6	4.1	3.8	2.9 [1]	2.0 [1]	1.0 [1]	...	...	...
First estimates published for 2007 (4th quarter), Bureau of Labor Statistics release of March 5, 2008	2.6	4.1	3.8	2.9	2.0 [1]	1.0 [1]	1.9 [1]	...	...
After the revisions round in 2007 (2nd quarter), Bureau of Labor Statistics release of August 8, 2008	2.6	4.1	3.8	2.9	1.8 [1]	0.9 [1]	1.5 [1]	...	...
First estimates published for 2008 (4th quarter), Bureau of Labor Statistics release of March 5, 2009	2.6	4.1	3.8	2.9	1.8	0.9	1.6	2.7	...
After the revisions round in 2008 (2nd quarter), Bureau of Labor Statistics release of August 11, 2009	3.0	4.5	3.8	2.9	1.7	1.0	1.8	1.9	...
First estimates published for 2009 (4th quarter), Bureau of Labor Statistics release of March 4, 2010	3.0	4.5	3.8	2.9	1.7	1.0	1.8 [1]	2.1 [1]	3.8 [1]
After the revisions round in 2009 (2nd quarter), Bureau of Labor Statistics release of August 10, 2010	3.0	4.5	3.8	2.9	1.7	0.9	1.5 [1]	1.1 [1]	3.5 [1]
Difference, original and actual estimates [2]	1.0	-0.3	-0.7	-1.1	-1.0	-0.8	-0.4	-1.6	-0.3

1. This estimate covers the four-year period of annual revisions that arise from the gross domestic product revision cycle. In Canada, the System of National Accounts revisions are usually made available with the release of the first quarter, while in the United States it is published with the preliminary estimates of the second quarter.
2. For some years, the revision process reflects more than short-term revision round. For example, for 2000, methodological changes were implemented for both hours worked and gross domestic product, which had the effect of exaggerating the impact of short-term revisions (for this year, see Table 1 in Kaci, and Maynard (2009)).

Sources: Statistics Canada; Bureau of Labor Statistics.

Table 2
Real gross domestic product, business sector, annual change, Canada and United States

	2001	2002	2003	2004	2005	2006	2007	2008	2009
					percent				
Canada									
First estimates published for 2001 (4th quarter), The Daily release of March 14, 2002	1.2 [1]	...	...	...	...	...	...	...	...
After the revisions round in 2001 (1st quarter), The Daily release of June 14, 2002	0.9 [1]	...	...	...	...	...	...	...	...
First estimates published for 2002 (4th quarter), The Daily release of March 14, 2003	0.9 [1]	3.8 [1]	...	...	...	...	...	...	...
After the revisions round in 2002 (1st quarter), The Daily release of June 12, 2003	1.3 [1]	3.4 [1]	...	...	...	...	...	...	...
First estimates published for 2003 (4th quarter), The Daily release of March 12, 2004	1.3 [1]	3.4 [1]	1.5 [1]	...	...	...	...	...	...
After the revisions round in 2003 (1st quarter), The Daily release of June 11, 2004	1.8 [1]	3.6 [1]	1.7 [1]	...	...	...	...	...	...
First estimates published for 2004 (4th quarter), The Daily release of March 10, 2005	1.8 [1]	3.6 [1]	1.7 [1]	2.9 [1]	...	...	...	...	...
After the revisions round in 2004 (1st quarter), The Daily release of June 9, 2005	1.6 [1]	3.2 [1]	1.6 [1]	3.1 [1]	...	...	...	...	...
First estimates published for 2005 (4th quarter), The Daily release of April 26, 2006	1.6	3.2 [1]	1.6 [1]	3.1 [1]	2.8 [1]	...	...	...	...
After the revisions round in 2005 (1st quarter), The Daily release of June 8, 2006	1.6	3.1 [1]	1.4	3.3 [1]	3.0 [1]	...	...	...	...
First estimates published for 2006 (4th quarter), The Daily release of March 12, 2007	1.6	3.1	1.4 [1]	3.3 [1]	3.0 [1]	2.7 [1]	...	...	...
After the revisions round in 2006 (1st quarter), The Daily release of June 12, 2007	1.6	3.0	1.5 [1]	3.2 [1]	3.2 [1]	2.6 [1]	...	...	...
First estimates published for 2007 (4th quarter), The Daily release of March 14, 2008	1.6	3.0	1.5	3.2 [1]	3.2 [1]	2.7 [1]	2.6 [1]	...	...
After the revisions round in 2007 (1st quarter), The Daily release of June 13, 2008	1.6	3.0	1.5	3.2 [1]	2.9 [1]	3.1 [1]	2.6 [1]	...	...
First estimates published for 2008 (4th quarter), The Daily release of March 17, 2009	1.6	3.0	1.5	3.2	2.9 [1]	3.1 [1]	2.6 [1]	-0.3 [1]	...
After the revisions round in 2008 (1st quarter), The Daily release of June 16, 2009	1.6	3.0	1.5	3.2	3.2 [1]	2.7 [1]	2.3 [1]	-0.4 [1]	...
First estimates published for 2009 (4th quarter), The Daily release of March 16, 2010	1.6	3.0	1.5	3.2	3.2	2.7 [1]	2.3 [1]	-0.4 [1]	-4.2 [1]
After the revisions round in 2009 (1st quarter), The Daily release of June 15, 2010	1.6	3.0	1.5	3.2	3.2	2.7 [1]	1.9 [1]	-0.3 [1]	-4.0 [1]
Difference, original and actual estimates	0.4	-0.8	0.0	0.3	0.4	0.0	-0.7	0.0	0.2

See the footnote and sources at the end of the table.

Table 2 – concluded
Real gross domestic product, business sector, annual change, Canada and United States

	2001	2002	2003	2004	2005	2006	2007	2008	2009
					percent				
United States									
First estimates published for 2001 (4th quarter), Bureau of Labor Statistics release of May 31, 2002	0.9 [1]	...	...	...	...	...	...	...	...
After the revisions round in 2001 (2nd quarter), Bureau of Labor Statistics release of August 9, 2002	-0.1 [1]	...	...	...	...	...	...	...	...
First estimates published for 2002 (4th quarter), Bureau of Labor Statistics release of June 4, 2003	-0.1 [1]	2.7 [1]	...	...	...	...	...	...	...
After the revisions round in 2002 (2nd quarter), Bureau of Labor Statistics release of August 7, 2003	-0.1 [1]	2.7 [1]	...	...	...	...	...	...	...
First estimates published for 2003 (4th quarter), Bureau of Labor Statistics release of March 4, 2004	0.1 [1]	2.3 [1]	3.7 [1]	...	...	...	...	...	...
After the revisions round in 2003 (2nd quarter), Bureau of Labor Statistics release of August 10, 2004	0.3 [1]	1.8 [1]	3.8 [1]	...	...	...	...	...	...
First estimates published for 2004 (4th quarter), Bureau of Labor Statistics release of March 3, 2005	0.3 [1]	1.8 [1]	3.8 [1]	5.1 [1]	...	...	...	...	...
After the revisions round in 2004 (2nd quarter), Bureau of Labor Statistics release of August 9, 2005	0.3 [1]	1.5 [1]	3.4 [1]	4.7 [1]	...	...	...	...	...
First estimates published for 2005 (4th quarter), Bureau of Labor Statistics release of March 7, 2006	0.3	1.5	3.4 [1]	4.8 [1]	4.0 [1]	...	...	...	...
After the revisions round in 2005 (2nd quarter), Bureau of Labor Statistics release of August 8, 2006	0.3	1.5	3.1 [1]	4.4 [1]	3.7 [1]	...	...	...	...
First estimates published for 2006 (4th quarter), Bureau of Labor Statistics release of March 6, 2007	0.3	1.5	3.1	4.4 [1]	3.7 [1]	3.8 [1]	...	...	...
After the revisions round in 2006 (2nd quarter), Bureau of Labor Statistics release of August 7, 2007	0.3	1.5	3.1	4.2 [1]	3.6 [1]	3.1 [1]	...	...	...
First estimates published for 2007 (4th quarter), Bureau of Labor Statistics release of March 5, 2008	0.3	1.5	3.1	4.2	3.6 [1]	3.1 [1]	2.3 [1]	...	...
After the revisions round in 2007 (2nd quarter), Bureau of Labor Statistics release of August 8, 2008	0.3	1.5	3.1	4.2	3.5 [1]	3.0 [1]	2.0 [1]	...	...
First estimates published for 2008 (4th quarter), Bureau of Labor Statistics release of March 5, 2009	0.3	1.5	3.1	4.2	3.5	3.0	2.0	0.8	...
After the revisions round in 2008 (2nd quarter), Bureau of Labor Statistics release of August 11, 2009	0.8	2.0	3.1	4.2	3.4	3.1	2.2	0.0	...
First estimates published for 2009 (4th quarter), Bureau of Labor Statistics release of March 4, 2010	0.8	2.0	3.1	4.2	3.4	3.1	2.2 [1]	0.0 [1]	-3.5 [1]
After the revisions round in 2009 (2nd quarter), Bureau of Labor Statistics release of August 10, 2010	0.8	2.0	3.1	4.2	3.4	3.1	2.0 [1]	-0.9 [1]	-3.7 [1]
Difference, original and actual estimates	-0.1	-0.7	-0.6	-0.9	-0.6	-0.7	-0.3	-1.5	-0.2

1. This estimate covers the four-year period of annual revisions that arise from the gross domestic product revision cycle. In Canada, the System of National Accounts revisions are usually made available with the release of the first quarter, while in the United States it is published with the preliminary estimates of the second quarter.

Sources: Statistics Canada; Bureau of Labor Statistics.

Table 3
Hours worked, business sector, annual change, Canada and United States

	2001	2002	2003	2004	2005	2006	2007	2008	2009
				percent					
Canada									
First estimates published for 2001 (4th quarter), The Daily release of March 14, 2002	0.0	...	...	...	...	...	...	...	...
After the revisions round in 2001 (1st quarter), The Daily release of June 14, 2002	0.1	...	...	...	...	...	...	...	...
First estimates published for 2002 (4th quarter), The Daily release of March 14, 2003	0.1	1.5	...	...	...	...	...	...	...
After the revisions round in 2002 (1st quarter), The Daily release of June 12, 2003	0.1	1.5	...	...	...	...	...	...	...
First estimates published for 2003 (4th quarter), The Daily release of March 12, 2004	0.4	1.4	1.5	...	...	...	...	...	...
After the revisions round in 2003 (1st quarter), The Daily release of June 11, 2004	0.4	1.4	1.3	...	...	...	...	...	...
First estimates published for 2004 (4th quarter), The Daily release of March 10, 2005	0.1	1.1	1.5	2.8	...	...	...	...	...
After the revisions round in 2004 (1st quarter), The Daily release of June 9, 2005	0.1	1.1	1.5	3.0	...	...	...	...	...
First estimates published for 2005 (4th quarter), The Daily release of April 26, 2006	0.5	1.6	1.3	3.1	0.6	...	...	...	...
After the revisions round in 2005 (1st quarter), The Daily release of June 8, 2006	0.5	1.6	1.3	3.1	0.6	...	...	...	...
First estimates published for 2006 (4th quarter), The Daily release of March 12, 2007	0.5	1.6	1.4	2.9	1.0	1.5	...	...	...
After the revisions round in 2006 (1st quarter), The Daily release of June 12, 2007	0.5	1.6	1.3	3.1	0.7	1.5	...	...	...
First estimates published for 2007 (4th quarter), The Daily release of March 14, 2008	0.5	1.6	1.3	3.2	0.7	1.5	2.2	...	...
After the revisions round in 2007 (3rd quarter), The Daily release of December 10, 2008	0.5	1.6	1.3	3.0	0.8	1.6	1.9	...	...
First estimates published for 2008 (4th quarter), The Daily release of March 17, 2009	0.5	1.5	1.3	3.0	0.8	1.6	1.9	0.8	...
After the revisions round in 2008 (1st quarter), The Daily release of June 16, 2009	0.5	1.5	1.3	3.0	0.7	1.6	1.9	0.8	...
First estimates published for 2009 (4th quarter), The Daily release of March 16, 2010	0.5	1.5	1.3	3.0	0.7	1.6	1.9	0.8	-4.3
After the revisions round in 2009 (1st quarter), The Daily release of June 15, 2010	0.5	1.5	1.3	3.0	0.7	1.6	1.9	0.6	-4.4
Difference, original and actual estimates[1]	0.5	0.0	-0.2	0.2	0.1	0.1	-0.3	-0.2	-0.1

See the footnote and sources at the end of the table.

Table 3 – concluded
Hours worked, business sector, annual change, Canada and United States

	2001	2002	2003	2004	2005	2006	2007	2008	2009
				percent					
United States									
First estimates published for 2001 (4th quarter), Bureau of Labor Statistics release of May 31, 2002	-1.1	...	...	...	...	...	...	...	...
After the revisions round in 2001 (2nd quarter), Bureau of Labor Statistics release of August 9, 2002	-1.3	...	...	...	...	...	...	...	...
First estimates published for 2002 (4th quarter), Bureau of Labor Statistics release of June 4, 2003	-1.3	-2.0	...	...	...	...	...	...	...
After the revisions round in 2002 (2nd quarter), Bureau of Labor Statistics release of August 7, 2003	-2.1	-2.5	...	...	...	...	...	...	...
First estimates published for 2003 (4th quarter), Bureau of Labor Statistics release of March 4, 2004	-2.1	-2.5	-0.8	...	...	...	...	...	...
After the revisions round in 2003 (2nd quarter), Bureau of Labor Statistics release of August 10, 2004	-2.2	-2.4	-0.6	...	...	...	...	...	...
First estimates published for 2004 (4th quarter), Bureau of Labor Statistics release of March 3, 2005	-2.2	-2.4	-0.6	1.2	...	...	...	...	...
After the revisions round in 2004 (2nd quarter), Bureau of Labor Statistics release of August 9, 2005	-2.2	-2.4	-0.5	1.3	...	...	...	...	...
First estimates published for 2005 (4th quarter), Bureau of Labor Statistics release of March 7, 2006	-2.1	-2.4	-0.7	1.3	1.3	...	...	...	...
After the revisions round in 2005 (2nd quarter), Bureau of Labor Statistics release of August 8, 2006	-2.2	-2.5	-0.7	1.3	1.4	...	...	...	...
First estimates published for 2006 (4th quarter), Bureau of Labor Statistics release of March 6, 2007	-2.2	-2.5	-0.7	1.3	1.6	2.1	...	...	...
After the revisions round in 2006 (2nd quarter), Bureau of Labor Statistics release of August 7, 2007	-2.2	-2.5	-0.7	1.3	1.6	2.1	...	...	...
First estimates published for 2007 (4th quarter), Bureau of Labor Statistics release of March 5, 2008	-2.2	-2.5	-0.7	1.3	1.6	2.1	0.4	...	...
After the revisions round in 2007 (2nd quarter), Bureau of Labor Statistics release of August 8, 2008	-2.2	-2.5	-0.7	1.3	1.6	2.1	0.5	...	...
First estimates published for 2008 (4th quarter), Bureau of Labor Statistics release of March 5, 2009	-2.2	-2.5	-0.7	1.2	1.7	2.1	0.5	-1.9	...
After the revisions round in 2008 (2nd quarter), Bureau of Labor Statistics release of August 11, 2009	-2.1	-2.4	-0.7	1.2	1.6	2.1	0.4	-1.9	...
First estimates published for 2009 (4th quarter), Bureau of Labor Statistics release of March 4, 2010	-2.1	-2.4	-0.7	1.2	1.6	2.1	0.4	-2.1	-7.0
After the revisions round in 2009 (2nd quarter), Bureau of Labor Statistics release of August 10, 2010	-2.1	-2.4	-0.7	1.2	1.7	2.1	0.5	-2.0	-6.9
Difference, original and actual estimates[1]	-1.0	-0.4	0.1	0.0	0.4	0.0	0.1	-0.1	0.1

1. For some years, revision process reflects more than short term revision round. For example, for 2000, methodological changes were implemented for both hours worked and gross domestic product, which had the effect of exaggerating the impact of short term revisions (for this year, see Table 3 in Kaci, and Maynard (2009)).

Sources: Statistics Canada; Bureau of Labor Statistics.

Table 4
Average annual growth of labour productivity in the business sector before and after revision, Canada and United States

	Canada		United States	
	Before revision	After revision	Before revision	After revision
		percent		
1981 to 2009	1.3	1.3	2.2	2.1
1981 to 2000	1.6	1.6	2.0	2.0
2000 to 2009	0.7	0.7	2.7	2.5
2000 to 2004	0.7	0.7	3.6	3.5
2004 to 2007	1.3	1.2	1.5	1.4
2006 to 2009	-0.2	-0.2	2.6	2.1
2008	-1.1	-0.9	2.1	1.1
2009	0.1	0.4	3.8	3.5

Sources: Statistics Canada. 2010. "Labour productivity, hourly compensation and unit labour cost, First quarter 2010." The Daily. June 15 (Canadian data); Bureau of Labor Statistics. 2010. "Productivity and Costs, Second quarter 2009". NEWS, August 10 (U.S. data).

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